

What is claimed is:

1. A method of manufacturing an ink jet head, comprising:

a grooves/side walls forming step of forming on a substrate a plurality of grooves arranged in parallel with one another and side walls as partition walls between the grooves;

a head substrate fabricating step of fabricating a head substrate by providing on the substrate an actuator for applying an ejecting pressure to ink fed into each of the grooves;

a nozzle plate bonding step of bonding a nozzle plate to a front end face of the head substrate; and

a top plate bonding step of bonding to one side of a head substrate directly or indirectly through a

thermosetting adhesive, a top plate which covers the grooves and to which an ink supply member formed of a material having a thermal expansion coefficient higher than that of the head substrate is pre-bonded, while keeping the head substrate and the top plate superimposed one on the other and while applying to the head substrate and the top plate such a load as maintains the head substrate and the top plate in parallel with each other after curing of the adhesive.

2. A method of manufacturing an ink jet head according to

claim 1, wherein the top plate is formed of a material

having a thermal expansion coefficient equal to that of the ink supply member.

3. A method of manufacturing an ink jet head according to claim 1, wherein the top plate bonding step comprises supporting both longitudinal ends of the top plate by means of fulcrums and applying the load to a flat surface of the head substrate on the side opposite to the top plate and at a position opposed to the ink supply member, in order to maintain the state in which the load for maintaining the head substrate and the top plate in parallel with each other also after curing of the adhesive is applied to the head substrate and the top plate while keeping the head substrate and the top plate superimposed one on the other.

4. A method of manufacturing an ink jet head, comprising:
a grooves/side walls forming step of forming a plurality of grooves arranged in parallel with one another and side walls as partition walls between the grooves;
a head substrate fabricating step of fabricating a head substrate by providing on the substrate an actuator for applying an ejecting pressure to ink fed into each of the grooves;

a nozzle plate bonding step of bonding a nozzle plate to a front end face of the head substrate;

a top plate bonding step of bonding a top plate for closing the grooves to one side of the head substrate

directly or indirectly, the top plate being formed of a material having a thermal expansion coefficient equal to that of the head substrate; and

an ink supply member bonding step of bonding an ink supply member to the top plate through a thermosetting adhesive while applying to the head substrate and the top plate such a load as maintains the head substrate and the top plate in parallel with each other even after curing of the adhesive, the ink supply member having a thermal expansion coefficient higher than that of the top plate.

5. A method of manufacturing an ink jet head according to claim 4, wherein in the ink supply member bonding step, the head substrate and the top plate are supported in a mutually parallel state and the load is applied to the ink supply member and also to a flat surface of the head substrate on the side opposite to the top plate and at a position opposed to the ink supply member, in order to maintain the state in which the load for maintaining the head substrate and the top plate in parallel with each other also after curing of the adhesive is applied to the head substrate and the top plate.

6. An ink jet head comprising:
a head substrate provided, at a substrate, with a plurality of grooves arranged in parallel with one another and side walls as partition walls between the grooves, and

provided with an actuator for applying an ejecting pressure to ink fed into each of the grooves;

a nozzle plate having nozzles opposed to front ends of the grooves and bonded to a front end face of the head substrate;

a top plate bonded to one side of the head substrate directly or indirectly to close open sides of the grooves; and

an ink supply member formed of a material having a thermal expansion coefficient higher than that of the head substrate and bonded to the top plate to supply ink to each of the grooves,

wherein the nozzles are arranged at positions at which the distance of each nozzle center deviated from a virtual straight line is not larger than $5\text{ }\mu\text{m}$, the virtual straight line joining the centers of nozzles located at both ends or thereabouts in the nozzle arranged direction.

7. An ink jet head according to claim 6, wherein the virtual straight line is a straight line joining the centers of the nozzles located at both ends in the nozzle arranged direction.